Appendix H: Evaluation Decision Framework

Commission staff utilized the detailed quarterly data, described in the prior appendix, as the foundation for prioritizing evaluation activities the point of comparison for applying updates from new information gathered from field evaluation.

Commission staff was directed to address eight specific parameters in their original evaluation mandate. In authorizing the evaluations of the 2010-2012 program cycle (D. 09-09-047) the responsibility for planning and conducting the impact evaluations was maintained with Commission Staff. The additional framework of collaboration laid out in D. 10-04-09 resulted in a joint evaluation plan being developed by the Commission and utility EM&V staff. This joint plan and the detailed evaluation plans illustrated Commission staff's plans to make updates to the claims on a parameter basis in addition to meeting other evaluation objectives.

Eight specific parameters were identified by the Commission and basic direction for updating those parameters. These include:

Parameter (* Means updated)	***Nature of Update in 2010-2012***
**Measure Installation*	*Independent "verification" studies were not conducted, but through the course of the impact evaluations, information was available to update the installation rate information for about half of the utility claims*
Program Costs	*The CPUC conducts regular audits and these reports may result in changes for the allowable costs. The costs at the measure-level were not updated. However the costs for the Energy Savings Performance Incentive as well as an error in costs. The correction is presented in the Cost Effectiveness Results appendix.*
**Unit Energy Savings /Savings by Program Strategy*	*The primary focus of the 2010-2012 evaluations was of the gross and net energy savings. 70% of the kWh, kW and therm savings were subject to some form of field evaluation.*
**Program level estimates of gross and net Savings*	*Roughly 70% of the kWh, kW and therm savings had a net to gross update based on field evaluation.*
**Load Factors or Daily Load Shapes for Peak Savings Estimates*	*Peak demand evaluations were part of the full impact evaluation. 70% of reported kW savings were updated.* *The peak savings estimates were evaluated in accordance with the Gross Demand Impact Protocols and consistent with the definition of peak demand adopted in D.06-06-063 (and compared to DEER 2008 Table 2. Peak Demand Period Used for DEER 2008 for each climate zone).*
Incremental Measure Costs	*The evaluations of the 2010-2012 program cycle did include an Incremental Measure Cost study; and results will likely be added to DEER estimates of incremental cost. No updates to incremental measure cost were made to the claims, but the cost effectiveness calculation was corrected for an error in which rebates were greater than incremental measure costs.*
Avoided Costs	*Avoided costs in the filed cost effectiveness calculators have been reviewed for consistency with the avoided cost proceeding and have not been modified in the final evaluation results contained in this report.*
**Expected Useful Lives of Measures*	*Information from downstream lighting activities affecting the EUL and RUL (Remaining Useful Life) dual baseline considerations were updated base on the evaluation for about 20% of the claims.*

Commission staff and evaluation contractors utilized the following options in making updates to the utility savings claims for the aforementioned parameters:

1. Pass through: Accept reported savings values for claims that do not fall within the frame of an impact evaluation (no change);
2. Leverage results from an evaluation study: Apply stratum-level results to records included in the frame of an impact evaluation. These data are considered "evaluated results" and are used in the context of this report;
3. Leverage results of ex-ante data review: Validate that DEER and non-DEER workpapers properly apply approved values, and then pass through.

Evaluation Decision Framework

The decision tree in the following figure illustrates how IOU claims were updated with field evaluation results for the 2010-2012 program cycle. This applies to all parameter updates listed above. Specific updates within unit energy savings and program performance include net to gross ratios and realization rates. The specific values that were used for the updates are described later in the appendix.

Figure H-1 Evaluation Framework Decision Tree

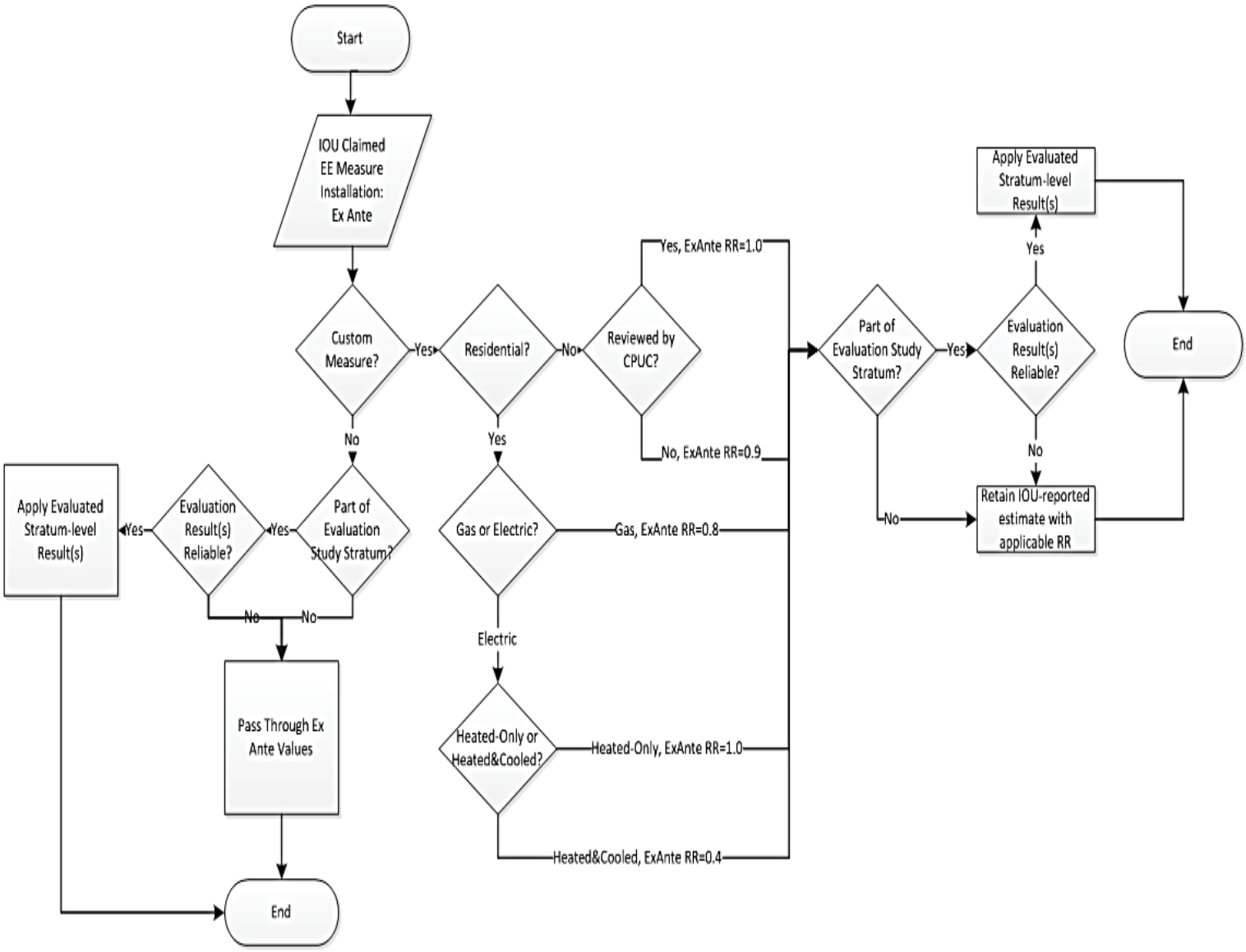


Figure H-2 Percentage of Portfolio kWh Parameter Updates by IOU

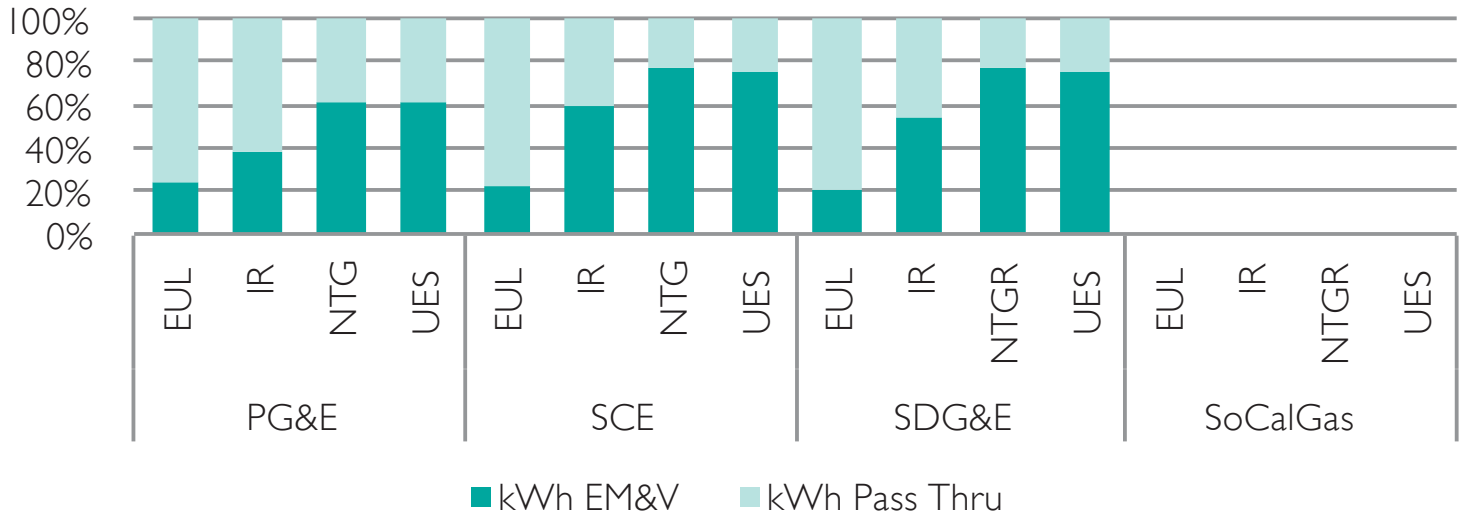


Figure H-3 Percentage of Portfolio kW Updates by IOU

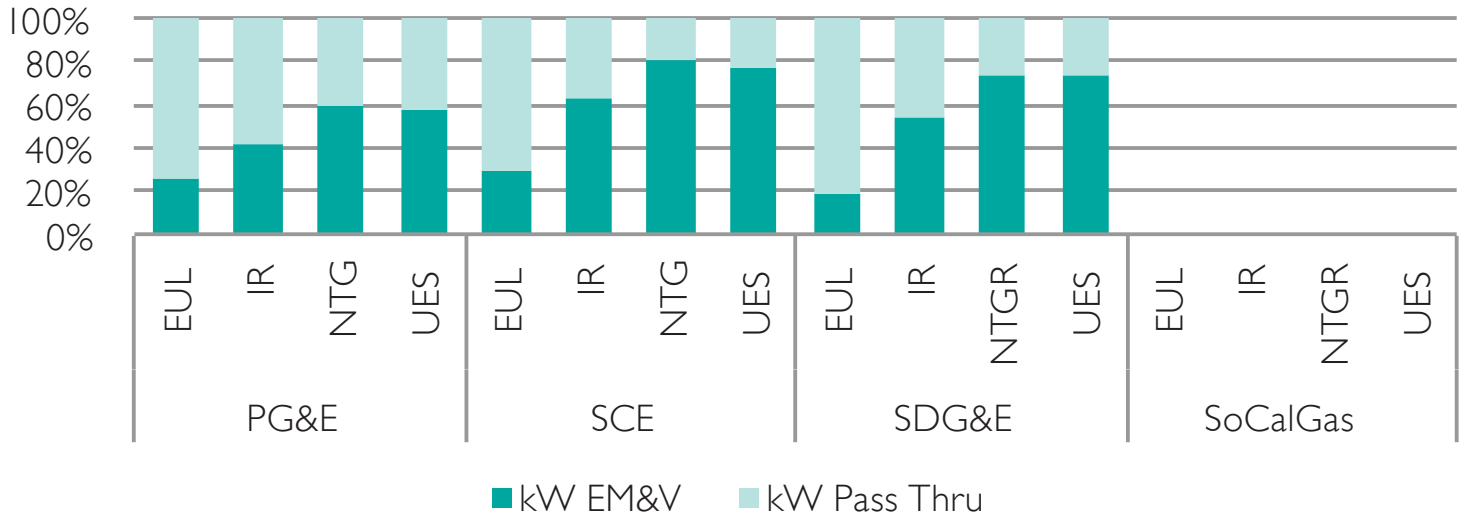
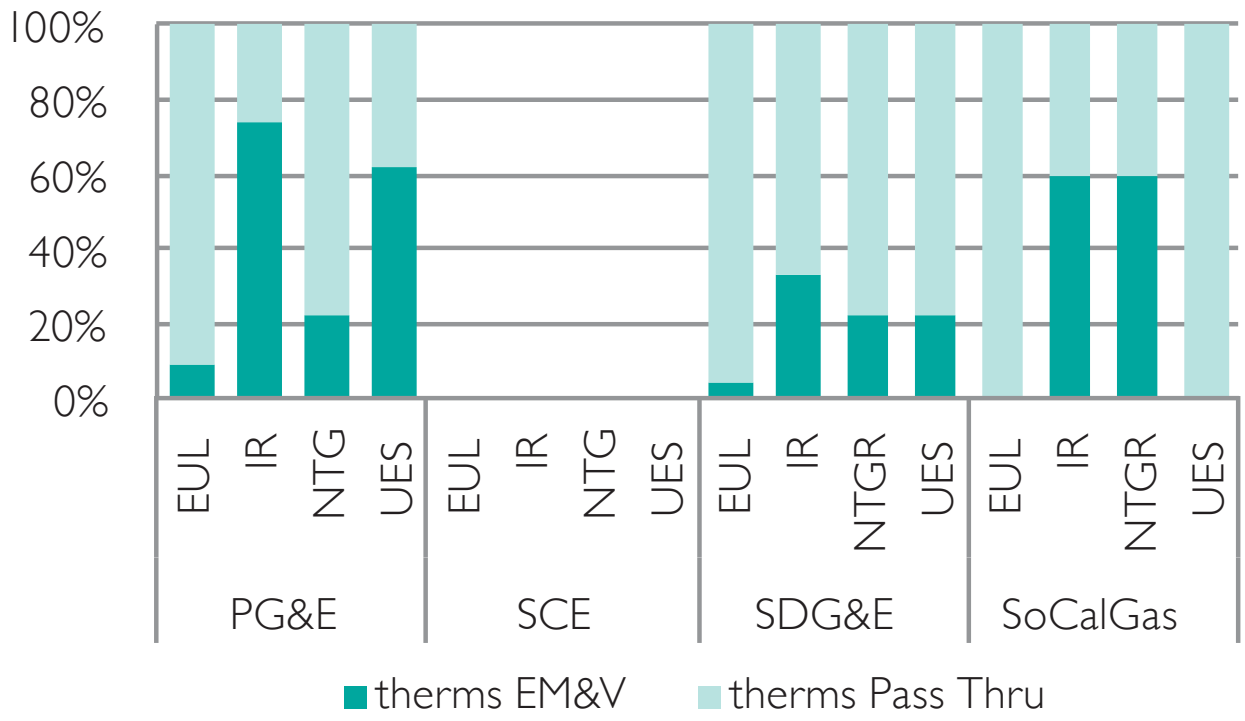
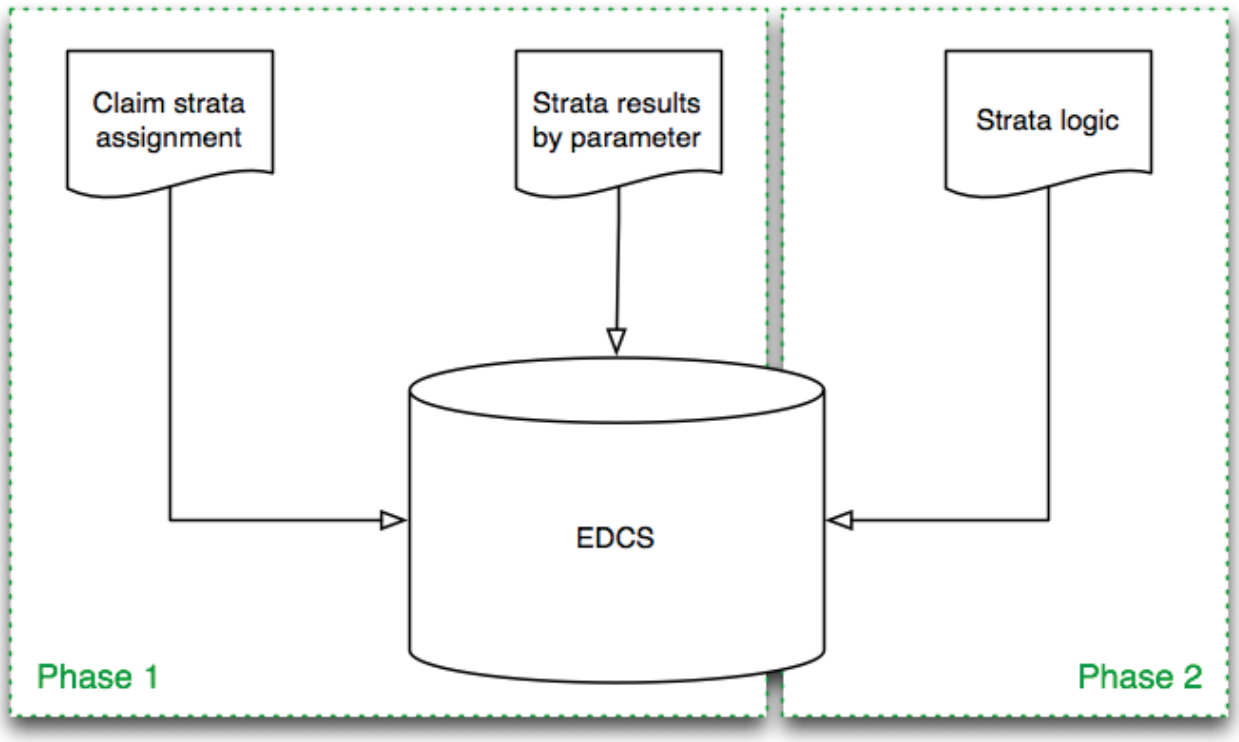


Figure H-4 Percentage of Portfolio Therm Updates by IOU



Evaluation reports were submitted by the two evaluation teams, DNV-GL and Itron. Eight evaluations submitted impact results for the 10-12 program cycle. Each final evaluation report was reviewed and vetted via the public review process and the final numbers were provided to the data processing team. Evaluation impact results are summarized, then downloaded and processed into the SQL Server database on the Energy Division Central Server (EDCS), an internal server (not publicly available) used to manage the data in a secure environment. Evaluation results are reported in two phases: the first phase is to deliver the data required to apply evaluation results to the final 10-12 claim. In the second phase the evaluation contractors provided the logic assign 10-12 claims into strata. A visual of this process is provided in the following figure.

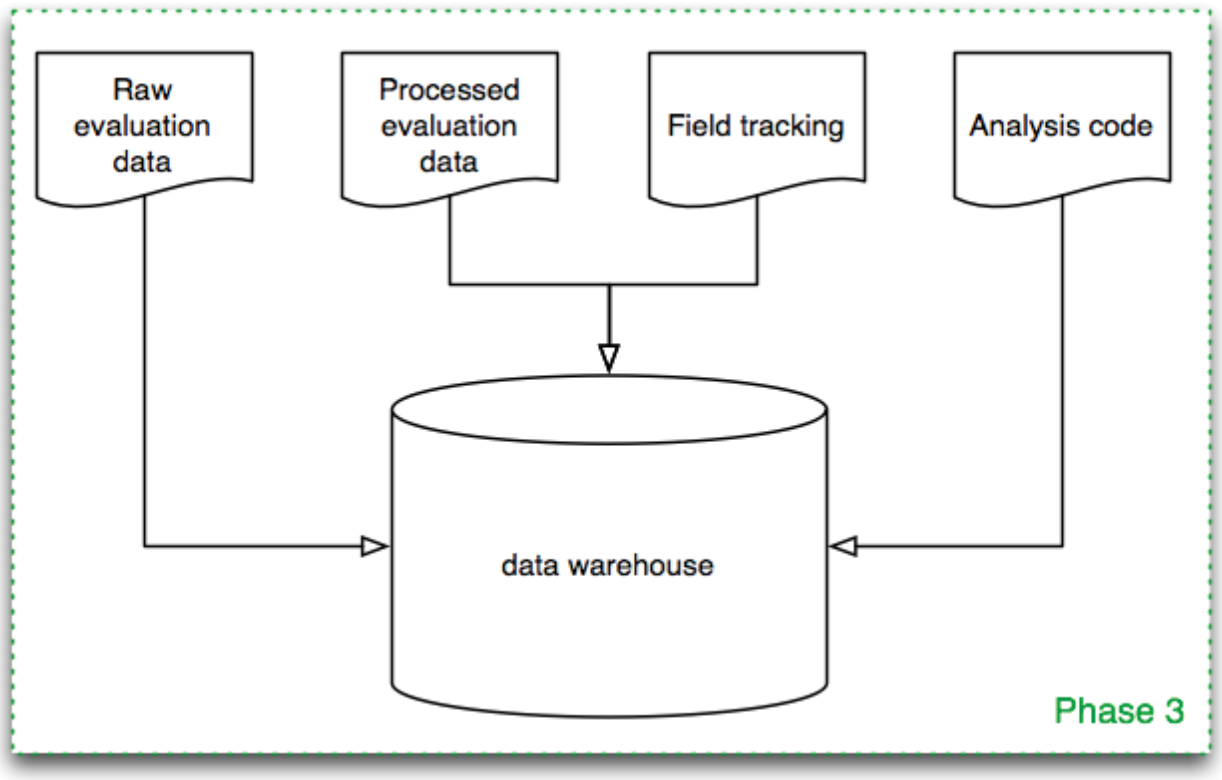
Figure H-5 Reporting of Evaluation Results:
Phase 1 and Phase 2



Following phases one and two is the third and final phase of evaluation data reporting. Phase three covers submission of all raw and processed evaluation data, analysis and processing code, and field tracking data to the online Energy Division data library.

The data library is maintained by Energy Division for future reference for evaluation activities and for savings estimation analysis (i.e. ex ante values for work papers or DEER updates).

Figure H-6 Reporting of Evaluation Results: Phase 3



Phase 1 Data Specification

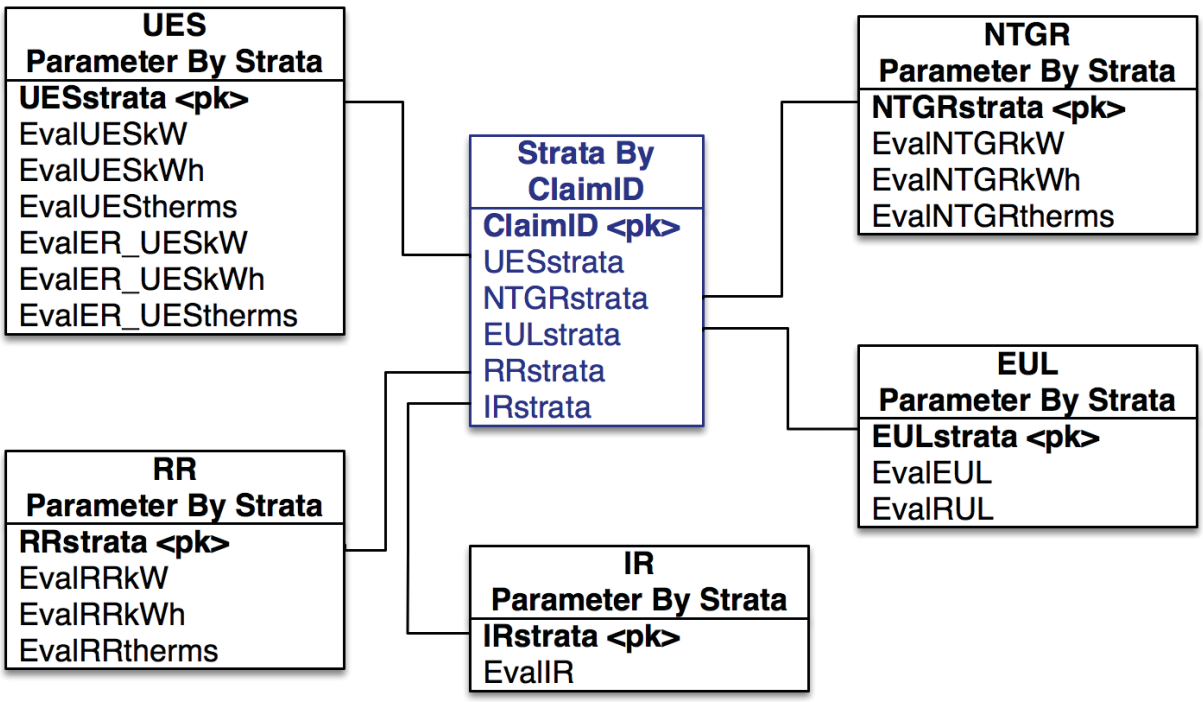
The data specification for evaluation results submitted by evaluation contractors consists of two primary components: record assignments to strata (the blue table in the middle of the following figure), and evaluation parameter results by strata (the five other black tables of the following figure). The two components are linked to assign evaluation parameter results to claim records in a transparent relationship. The connection and resulting data is designed to be consistent with the field evaluation sample structure.

Two phase 1 data elements

1. Parameter by Strata (PbS) - evaluation parameter results for each strata
2. Strata by ClaimID (SbC) - assignment of claim lines to strata

These two data elements are brought together to assign evaluation results to the claim data.

Figure H-7 Evaluation Phase I Data Specification



Data Specification Files

The Parameter by Strata (PbS) database provides the Strata by ClaimID template for reporting strata assignments for each claim record. It also includes QC tables that are used to check the application of the data to the claim.

ParameterByStrata.accdb databases (residential and commercial) are available on the EEStats website: http://eestats.cpuc.ca.gov/Views/AnnualReport/AnnualReport.aspx?ContentId=15

Summary of Results by Work Order and Updated Parameter

The following tables summarize the study results from each evaluation group, broken out by updated parameters. The included Excel file for Appendix H shows the evaluation-updated savings parameters for the work orders (WO) in Table H-1:

Table H-1 List Impact Evaluations in 2010-2012

Project	Evaluation Title	Contractor
WO 28	Residential Advanced Upstream Lighting Impact Evaluation	KEMA/DNV-GL
WO 29	Downstream Lighting	Itron
WO 32	HVAC	KEMA/DNV-GL
WO 33	Custom Impact Evaluation	Itron
WO 34	Consumer Electronic Plug Load Impact Evaluation	KEMA/DNV-GL
WO 35	Appliance Recycling Program	KEMA/DNV-GL
WO 36	Energy Audit and Survey Impact Evaluation	Itron
WO 46	Whole House	KEMA/DNV-GL

Table H-2 below shows the high level breakdown of the claimed savings which received an evaluation update based on the data available from the evaluation contractors and in relationship to the claims from the utilities. The percent of the evaluation claim which has had a specific update statewide and for each utility is provided in this Appendix.

Table H-2 Percent of Reported Savings Updated with Evaluation Results by Evaluation Parameter

Parameter	GWh Evaluated	% Portfolio Evaluated	MW Evaluated	% Portfolio Evaluated	MMTherms Evaluated	% Portfolio Evaluated
UES	4,386	89%	804	95%	71	76%
NTG	4,465	91%	835	99%	71	76%
IR	3,157	64%	620	73%	17	18%
EUL	1,500	30%	326	39%	5	5%